Cottonwood 3 Mine—Cottonwood Wash Locality, Utah

DRUM PROGRAM MIDYEAR PROGRESS REPORT

January 1–June 30

2025

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Introduction

The 2014 *Defense-Related Uranium Mines Report to Congress* (DOE 2014b) (2014 Report to Congress) identified the potential physical and environmental risks posed by legacy abandoned uranium mines (AUMs) in the United States on public land, Native nation lands, and private property as mandated by the 2013 National Defense Authorization Act. This set of mines provided uranium ore for defense-related atomic energy activities from 1947 to 1970. To help quantify the remnant risks associated with these mines identified in the 2014 Report to Congress, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) initiated the Defense-Related Uranium Mines (DRUM) Program in fiscal year (FY) 2017. The DRUM Program supports LM's strategic goal of "Protect[ing] human health and the environment" (Goal 1) and its strategic objective to "address the environmental legacy of defense-related uranium mining and milling sites" (DOE 2020). DOE subsequently developed multiple campaigns to carry out verification and validation (V&V) fieldwork at these legacy mines. Mine-specific V&V reports document this information and serve as the basis for evaluating the risks posed by a group of mines, as presented in a risk roll-up report (public land) or a hazard summary (tribal land and private property).

This DRUM Program midyear progress report describes the program's achievements for the reporting period of January 1 through June 30, 2025. It provides information regarding reconciliation numbers; the progress of V&V Campaigns 1–3; risk roll-up reporting; the DRUM safeguarding program; human health risk and potential Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) actions; overall accomplishments since the program's initiation in July 2017; and the DRUM Program's return on investment.

Reconciliation of DRUM Sites

The DOE 2014 Report to Congress recognized that the U.S. Atomic Energy Commission ore production records were the most comprehensive and representative records identifying mines in the DRUM Program. The 2014 Report to Congress identified 4225 mines from these records, counting each purchase record as an individual mine. The estimated total number of mines changes as more information is obtained. The DRUM Program has confirmed that duplicate (two or more) purchase records exist for many mines, resulting in an overestimation of the total number of mines. Aside from merging duplicate records, the DRUM team occasionally discovers additional previously unreported purchase records that are added to the total number of mines. The total number of reconciled DRUM Program sites is 3472 (Table 1).

Table 1. Summary of Reconciled DRUM Sites

Number of DRUM sites in 2014 Report to Congress	**4225**
New sites and records added	373
Duplicate production records removed	(1126)
Total number of reconciled DRUM Program sites as of June 30, 2025	**3472**

Subsequent evaluation of these 3472 reconciled mines, conducted in preparation for field mobilization, revealed additional criteria that further reduced the final number of mines identified for field visits. For example, mines with active mining permits would not be visited. Table 2 summarizes the total number of mines identified for field visits.

Table 2. Summary of DRUM Sites Identified for Field Visits

Number of reconciled DRUM Program sites as of June 30, 2025	**3472**
Unconventional sites removed	(27)
Unlocatable records removed	(106)
Sites with active mining permits removed (not field evaluated)	(42)
Sites under CERCLA regulations removed (not field evaluated)	(211)
NPS sites removed (not field evaluated)	(4)
No V&V evaluation for other reasons (not field evaluated)	(3)
Total number of DRUM sites identified for field visits as of June 30, 2025[a]	**3079**

Note:
[a] Includes one unconventional site that was field evaluated by request and counted as a Campaign 1 and 3 mixed-ownership mine.

Abbreviation:
NPS = National Park Service

DRUM V&V Activities

V&V activities consist of the following: (1) a reconciliation step completed in the office to confirm land status, location, and ore purchase data for each mine and to remove duplicate purchase records from the DRUM Program database; (2) an inventory step to confirm the mine location in the field and to gather information regarding mine features and their potential hazards; (3) an environmental sampling step to collect chemical, radiological, and ecological data; and (4) a report preparation step. Field V&V work is completed after inventory and environmental sampling are complete or after inventory is complete for mines that do not require sampling. Draft and final reports are prepared for each mine following completion of V&V activities. Draft reports are generally submitted within 120 business days after V&V work is completed. Final reports are prepared after LM reviews and approves the draft reports. A V&V report is considered complete when LM accepts the report, and the acceptance date is recorded in the DRUM Program database.

During the 2024 field season, V&V activities were focused on completing Campaign 1 in Arizona, California, Colorado, Idaho, Montana, Nevada, New Jersey, New Mexico, South Dakota, Washington, and Wyoming. Campaign 1 was scheduled to be complete by the end of 2024, but there are six remaining sites because of changes in V&V status (three sites), inaccessibility due to snow (one site), and the need to collect additional information (two sites). LM continued to focus on Campaign 2 V&V activities on Native nation lands in 2024, primarily the Navajo Nation. V&V fieldwork at mines in the Northern AUM region (in the Aneth, Sanostee, Teec Nos Pos, and Red Valley Chapters) and in the North Central AUM region (in the Oljato, Shonto, Kayenta, and Dennehotso Chapters) of the Navajo Nation continued during the 2024 field season. LM also initiated V&V activities on private property in 2024 in western Colorado.

In March 2025, the DRUM Program announced that it will sunset earlier than originally planned and that it will conclude fieldwork at the end of FY 2026. In the interim, the program's focus will be on the completion of Campaigns 1 and 2, and field visits to Campaign 3 mines will be limited to those where access agreements have been acquired.

DRUM Campaigns 1–3 Progress Summary

The DRUM Program's ninth field season began on March 3, 2025. This season's fieldwork, through June 30, 2025, has comprised V&V activities at Campaign 1 (U.S. Bureau of Land Management [BLM]-managed land in Colorado and Utah), Campaign 2 (Navajo Nation lands in Arizona and Utah), Campaign 3 (private property in Colorado and Utah), and Campaign 1 and 3 mixed-ownership mines (BLM-managed land and private property in Colorado and Utah). Table 3 outlines the program's progress for the reporting period and its overall progress by campaign.

Table 3. DRUM Program Progress by Campaign

DRUM Program Progress by Campaign						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025[a]**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Campaign 1	2217	2	2215	2	34	2214
Campaign 1 portion of mixed public and private ownership[b,c,d]	151[b]	12	148[b]	3	17	136[b]
Campaign 3 portion of mixed public and private ownership[b,c,d]	151[b]	28	78[b]	73	14	46[b]
Campaign 1 portion of mixed public and tribal ownership[c]	2	0	1	1	1	1
Campaign 2 portion of mixed public and tribal ownership[c]	2	1	2	0	1	1
Campaign 2 portion of mixed tribal and private ownership[c]	1	0	0	1	0	0
Campaign 3 portion of mixed tribal and private ownership[c]	1	0	0	1	0	0

Table 2. DRUM Program Progress by Campaign (continued)

DRUM Program Progress by Campaign						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025[a]**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Campaign 2	208	24	130	78	15	106
Campaign 3	500	43	74	426	17	31
Totals for all campaigns	**3233[e]**	**110[e]**	**2648[e]**	**585[e]**	**99[e]**	**2535[e]**

Notes:

[a] Includes 16 mines deemed inaccessible and 31 mines or mine portions where a stakeholder has denied access (both cases are considered V&V complete).

[b] Includes one unconventional site that was field evaluated by request and was counted as a Campaign 1 and 3 mixed-ownership mine.

[c] Mixed public and private ownership, mixed public and tribal ownership, and mixed tribal and private ownership mines are displayed separately for tracking purposes. Due to access restrictions, the field teams may visit one portion of a mine at a different time than the other.

[d] Ongoing V&V work has identified land ownership discrepancies at some DRUM mines initially considered private, affecting the number of Campaign 1 and Campaign 3 mixed-ownership mines.

[e] The totals includes both portions of mixed-ownership mines (public and private, public and tribal, and private and tribal).

The following sections and the associated tables describe each V&V campaign's progress in greater detail by land ownership.

Campaign 1 Progress

Campaign 1 field activities began in FY 2017. As of June 30, 2025, V&V field visits have been conducted at over 99% of identified Campaign 1 mines with six mines remaining because of V&V status changes (three sites), inaccessibility due to snow (one site), and the need to collect additional information (two sites). These six mines will have V&V field visits in 2025. V&V progress for Campaign 1 only mines is presented in Table 4. V&V progress for the public portions of mines with mixed public and private ownership is presented in Table 5, and V&V progress for the public portions of mines with mixed public and tribal ownership is presented in Table 6.

Table 4. Campaign 1 Progress—Mines on Public Land

Campaign 1—Mines on Public Land						
Land Management Agency	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
BLM	1570	2	1569	1	8	1568
USBR	2	0	2	0	0	2
DOD	1	0	1	0	0	1
Local municipality	3	0	3	0	3	3
NPS	35	0	35	0	0	35
State	84	0	83	1	9	83
USFWS	2	0	2	0	0	2
USFS	306	0	306	0	12	306
Mixed (more than one public agency)	214	0	214	0	2	214
Total	**2217**	**2**	**2215**	**2**	**34**	**2214**

Abbreviations:
DOD = U.S. Department of Defense
NPS = National Park Service
USBR = U.S. Bureau of Reclamation
USFS = U.S. Forest Service
USFWS = U.S. Fish and Wildlife Service

Campaigns 1–3—Mixed-Ownership Progress, Public Portion

Table 5. Campaign 1 Progress—Mines on Both Public Land and Private Property

Campaigns 1 and 3—Mines on Mixed-Ownership Land						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025[a]**	**V&V Field Visits Completed January 1– June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025[a]**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1– June 30, 2025**	**V&V Reports Completed as of June 30, 2025[a]**
Campaign 1 portion of mixed public and private ownership	151	12	148	3	17	136

Note:
[a] Includes one unconventional site that was field evaluated by request and counted as a Campaign 1 and 3 mixed-ownership mine.

Table 6. Campaign 1 Progress—Mines on Both Public Land and Tribal Lands

Campaigns 1 and 2—Mines on Mixed-Ownership Land						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1– June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1– June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Campaign 1 portion of mixed public and tribal ownership	2	0	1	1	1	1

Campaign 2 Progress

Campaign 2 field activities began in FY 2022. V&V field visits were conducted on three mines on Laguna Pueblo land in August 2022. Field activities at mines on Navajo Nation land began in FY 2023 (October 2022). The estimated completion date for Campaign 2 field activities is September 30, 2026. V&V progress for Campaign 2 only mines is presented in Table 7. V&V progress for the tribal portions of mines with mixed public and tribal ownership is present in Table 8, and V&V progress for the tribal portions of mines with mixed tribal and private ownership is present in Table 9.

Table 7. Campaign 2 Progress—Mines on Native Nation Lands

Campaign 2—Mines on Native Nation Lands							
Land Management Agency	**Local Management Office**	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
BIA	Navajo Nation	195	24	125	70	15	101
BIA	Hualapai	1	0	0	1	0	0
BIA	Pueblo of Laguna	3	0	3	0	0	3
BIA	Spokane	2	0	2	0	0	2
BIA	Tohono O'odham	1	0	0	1	0	0
BIA	Uintah and Ouray	1	0	0	1	0	0
BIA	Zia Pueblo	1	0	0	1	0	0
BIA	Pueblo of Zuni	1	0	0	1	0	0
Mixed	BIA and state[a]	1	0	0	1	0	0
Private[b]	NA	2	0	0	2	0	0
Total		**208**	**24**	**130**	**78**	**15**	**106**

Notes:

[a] There are a total of three mixed-ownership mines associated with the Navajo Nation. The mine with Navajo Nation and state mixed ownership is currently categorized as a Campaign 2 mine only. The other two are Campaign 1 and 2 mixed-ownership and Campaign 2 and 3 mixed-ownership mines. Those mines are included in Table 8 and Table 9 below.

[b] The total number of private mines includes two mines that are categorized as Campaign 2 due to discussions of ownership transfer to the Navajo Nation that are still pending as of June 30, 2025.

Abbreviations:

BIA = U.S. Bureau of Indian Affairs

NA = not applicable

Table 8. Campaign 2 Progress—Mines on Both Tribal Lands and Public Land

Campaigns 1 and 2—Mines on Mixed-Ownership Land						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Campaign 2 portion of mixed public and tribal ownership	2	1	2	0	1	1

Table 9. Campaign 2 Progress—Mines on Both Tribal Lands and Private Property

Campaigns 2 and 3—Mines on Mixed-Ownership Land						
Campaign	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Campaign 2 portion of mixed private and tribal ownership	1	0	0	1	0	0

Campaign 3 Progress

Campaign 3 field activities officially began on March 4, 2024. However, a small number of V&V field visits were conducted at mines on private property early in the DRUM Program; seven were completed in Utah under a potential land donation agreement between the landowner and BLM in 2019 and 2020. The mines were never transferred to public ownership and have since been designated as Campaign 3 mines. V&V activities on the private portions of two mines were completed in 2020 and 2021 at the same time as activities on the public portions. V&V activities on the private portion of the Burro Tunnel mine (LM ID 2542) were completed in 2022 at the same time as activities on the public portion after the landowner granted access while in the field with the team. Access to one mine in Arizona was denied in 2023, and the mine was marked V&V complete. Campaign 3 field activities will continue through September 30, 2026, focusing on mines that have been identified for a V&V field visit and have approved access. Of those mines on private property identified for V&V field visits, the DRUM Program expects to be able to visit an estimated total of 252 mines on private property by the end of field V&V activities. V&V progress for Campaign 3 only mines is presented in Table 10. V&V progress for the private portions of mines with mixed public and private ownership is presented in Table 11, and V&V progress for the private portions of mines with mixed tribal and private ownership is presented in Table 12.

Table 10. Campaign 3—Mines on Private Property

Campaign 3—Mines on Private Property						
Land Management Agency	**Reconciled Mines Identified for V&V Field Visits as of June 30, 2025**	**V&V Field Visits Completed January 1–June 30, 2025**	**Total V&V Field Visits Completed Through June 30, 2025**	**V&V Field Visits Remaining as of June 30, 2025[a]**	**V&V Reports Completed January 1–June 30, 2025**	**V&V Reports Completed as of June 30, 2025**
Private	496	41	70	426	15	29
Mixed (DOE and private)[b]	2	0	2	0	2	2
Mixed (BLM and private)[b]	1	1	1	0	0	0
Mixed (more than one private entity)[b]	1	1	1	0	0	0
Total	**500**	**43**	**74**	**426**	**17**	**31**

Note:
[a] Only an estimated 252 of these mines (or a smaller portion of that number) are expected to be visited by September 30, 2026.
[b] Two mines on DOE land and private property, one mine on BLM land and private property, and one mine on private property owned by two different entities are categorized as Campaign 3 mines as of June 30, 2025.

Campaigns 1–3—Mixed-Ownership Progress, Private Portion

Table 11. Campaign 3 Progress—Mines on Both Public Land and Private Property

Campaigns 1 and 3—Mines on Mixed-Ownership Land						
Campaign	Reconciled Mines Identified for V&V Field Visits as of June 30, 2025[a]	V&V Field Visits Completed January 1–June 30, 2025	Total V&V Field Visits Completed Through June 30, 2025[a]	V&V Field Visits Remaining as of June 30, 2025[b]	V&V Reports Completed January 1–June 30, 2025	V&V Reports Completed as of June 30, 2025[a]
Campaign 3 portion of mixed public and private ownership	151	28	78	73	14	46

Notes:

[a] Includes one unconventional site that was field evaluated by request and counted as a Campaign 1 and 3 mixed-ownership mine.

[b] Only an estimated 252 (or a smaller portion of that number) of the reconciled mines on private property are expected to be visited by September 30, 2026.

Table 12. Campaign 3 Progress—Mines on Both Private Property and Tribal Lands

Campaigns 2 and 3—Mines on Mixed-Ownership Land						
Campaign	Reconciled Mines Identified for V&V Field Visits as of June 30, 2025	V&V Field Visits Completed January 1–June 30, 2025	Total V&V Field Visits Completed Through June 30, 2025	V&V Field Visits Remaining as of June 30, 2025[a]	V&V Reports Completed January 1–June 30, 2025	V&V Reports Completed as of June 30, 2025
Campaign 3 portion of mixed private and tribal ownership	1	0	0	1	0	0

Note:

[a] Only an estimated 252 (or a smaller portion of that number) of the reconciled mines on private property are expected to be visited by September 30, 2026.

Risk Roll-Up Reporting

Preparing risk roll-up reports that record the mines within identified V&V project areas is an integral aspect of DRUM Program reporting because it links V&V activities to the "DRUM Safeguarding Program Progress Summary" section below. Project areas may comprise localities, land management agency field offices, or other logical geographical groupings created by land management agencies. Risk roll-up reports are only created for Campaign 1 mines because they assign mines rankings for chemical, radiological, and radium-226 risks, and Campaign 2 and Campaign 3 mines are not evaluated for these risks. A risk roll-up report is considered complete when it is accepted by LM. Risk roll-up reports finalized during this reporting period cover mines for which V&V reports were finalized before and during the same reporting period. The following is a list of the areas for which risk roll-up reports were completed between January and June 2025:

- Hassayampa, Tucson, and Safford Field Offices (four mines) in central Arizona on BLM-administered land (DOE 2025b)
- Manti-La Sal National Forest—Monticello Ranger District (11 mines) in southern Utah on U.S. Forest Service (USFS)-administered land (DOE 2025c)
- Mojave Desert Mining District (eight mines) in southern California on BLM-administered land (DOE 2025d)
- Montezuma Canyon Locality North (11 mines) in southeastern Utah on BLM-administered land (DOE 2025e)
- Remaining State of Utah School and Institutional Trust Lands Administration (SITLA) (nine mines) in southern Utah on state-administered land (DOE 2025f)
- Tonto National Forest (14 mines) in central Arizona on USFS-administered land (DOE 2025g)
- USFS California (nine mines) in central southern California on USFS-administered land (DOE 2025h)

DRUM Safeguarding Program Progress Summary

Physical hazards are mining-related features that pose potential harm to human health or safety and are recognized as the primary risk at DRUM sites. Physical mining-related features that pose threats to human safety include open vertical mine entries (shafts, some vents, and subsidence features) as well as horizontal mine entries (adits and declines). In some instances, a remnant topographic surface feature, such as a highwall, may also pose a human safety hazard. Concurrence on those features that need to be safeguarded is required for LM and partner agencies (land management agencies and state abandoned mine lands programs) to initiate hazardous mine feature safeguard projects.

LM has expanded its safeguarding assistance to partner agencies through existing agreements to promote collaboration. In addition to these agreements, LM also has a financial agreement with Bat Conservation International (BCI) to bolster the overall safeguarding capacity of the program. LM anticipates that the funding and scope of existing Cooperative Agreements will be maintained until the end of the program. To protect the well-being of members of the public who visit DRUM sites, LM and partner agencies are prioritizing safeguarding physical hazards, primarily mine entries, identified by the DRUM Program. LM is collaborating with project planning and providing partner agencies with funding and project management oversight to ensure that safeguarding is fiscally efficient, timely, effective, and protective of cultural and ecological resources. Additional information about the process can be found in the *Defense-Related Uranium Mines (DRUM) Safeguarding Program Management Plan* (DOE 2025a).

The DRUM Program has identified 5886 hazardous mine features at 2530 mines that may require safeguarding. Table 13 shows the number of mines with physical hazards by state and the estimated total cost of safeguarding. The estimated cost of constructing mine safeguards may be reevaluated following completion of additional mine safeguard projects.

Since starting safeguarding work in 2020, the DRUM Program has facilitated the safeguarding of 1261 hazardous features as of June 30, 2025. Planning is ongoing for the Spring Creek Adjacent, Placerville, and Private mines project, as well as for projects in the Wild Steer Mesa, Monogram Mesa, Mexico Group, Gypsum Gap, and South Gypsum areas of Colorado; in the Henry Mountains and Kane Creek areas of Utah; and in the Pryor Mountains area of Montana. These projects are scheduled to begin in fall 2025. These 2025 safeguarding projects will address an estimated 292 hazardous mining-related features at DRUM sites on BLM, USFS, and SITLA land and private property.

Table 13. Mines with Potential for Safeguarding (Cumulative Through June 30, 2025)

State	Mines Risk Screened	Mines with Physical Hazards	Potential Features for Safeguarding	Total Costs for Safeguarding ($ millions)[a]
Arizona	121	62	194	$3.5
California	21	18	87	$1.6
Colorado	1065	673	2086	$37.6
Idaho	6	6	17	$0.3
Montana	16	13	57	$1.0
Nevada	19	18	95	$1.7
New Jersey	1	1	2	$0.04
New Mexico	101	44	97	$1.8
North Dakota	3	1	1	$0.02
Oregon	1	1	13	$0.2
South Dakota	100	76	298	$5.4
Utah	967	650	2752	$49.5
Washington	3	3	8	$0.1
Wyoming	106	58	179	$3.2
Total	**2530[b]**	**1624**	**5886**	**$106.0**

Notes:
[a] Total costs were calculated using the figure of $18,000 multiplied by the number of potential features to be safeguarded.
[b] This includes all mines at which V&V work has been completed, regardless of land management or ownership status.

The DRUM Program's planned sunset at the end of FY 2026 also applies to the safeguarding program. LM will continue funding the safeguarding program through September 2026 via agreements with partner agencies and BCI.

Human Health Risk and CERCLA Potential

Land management agencies utilize their authority under CERCLA to address releases, or potential releases, of hazardous substances. Mines on public lands with a “high” or “medium” score for chemical or radiological risks could be further investigated by the land management agencies, potentially leading to CERCLA response actions. Of the 2350 public mines with completed V&V reports that have been risk screened to date, approximately 296 mines (13%) could require further analysis via the CERCLA process.

The DRUM Program can further refine this assessment by applying the risk-modifying factors to the screening process so that only mines ranked “high” for suitability for camping and “high” or “medium” for ease of access are considered for CERCLA response actions; this would reduce the percentage of mines requiring further CERCLA analysis to 2%. Table 14 shows the public mines with “high” or “medium” risk rankings for chemical or radiological hazards (without applying the abovementioned modifying factors) and the potential costs associated with remediation.

Table 14. Public Mines That Are Potential Candidates for Remediation (CERCLA) Actions (Cumulative Through June 30, 2025)

State	Mines Risk Screened[a]	"High" Chemical Risk Ranking	"Medium" Chemical Risk Ranking	"High" Radiological Risk Ranking	"Medium" Radiological Risk Ranking	"High" Radium-226 Risk Ranking[b]	"Medium" Radium-226 Risk Ranking[b]	Potential CERCLA Mines (Remediation Process)[c]	Potential CERCLA Costs (Remediation) ($ million)[d]
Arizona	58	5	0	0	3	4	4	12	$15.6
California	21	0	2	0	0	0	1	3	$3.9
Colorado	1002	21	30	0	13	8	50	99	$128.7
Idaho	6	1	0	0	0	0	1	2	$2.6
Montana	16	5	2	0	0	0	3	8	$10.4
Nevada	19	2	1	0	2	1	2	5	$6.5
New Jersey	1	0	0	0	0	0	0	NA	NA
New Mexico	69	0	3	0	0	0	0	3	$3.9
North Dakota	3	0	0	0	0	0	0	NA	NA
Oregon	1	0	0	0	0	0	0	NA	NA
South Dakota	100	1	0	0	1	0	2	4	$5.2
Utah	949	14	98	0	21	11	24	147	$191.1
Washington	3	0	0	0	0	0	1	1	1.3
Wyoming	102	0	3	0	2	4	4	12	$15.6
Total	**2350**	**49**	**139**	**0**	**42**	**28**	**92**	**296**	**$384.8**

Notes:

[a] This only includes mines on public land and the public portions of mixed-ownership mines for which V&V reports have been completed.

[b] Starting in March 2020, LM began evaluating radium-226 concentration on a separate risk track; therefore, only 1315 mines have been screened for this risk.

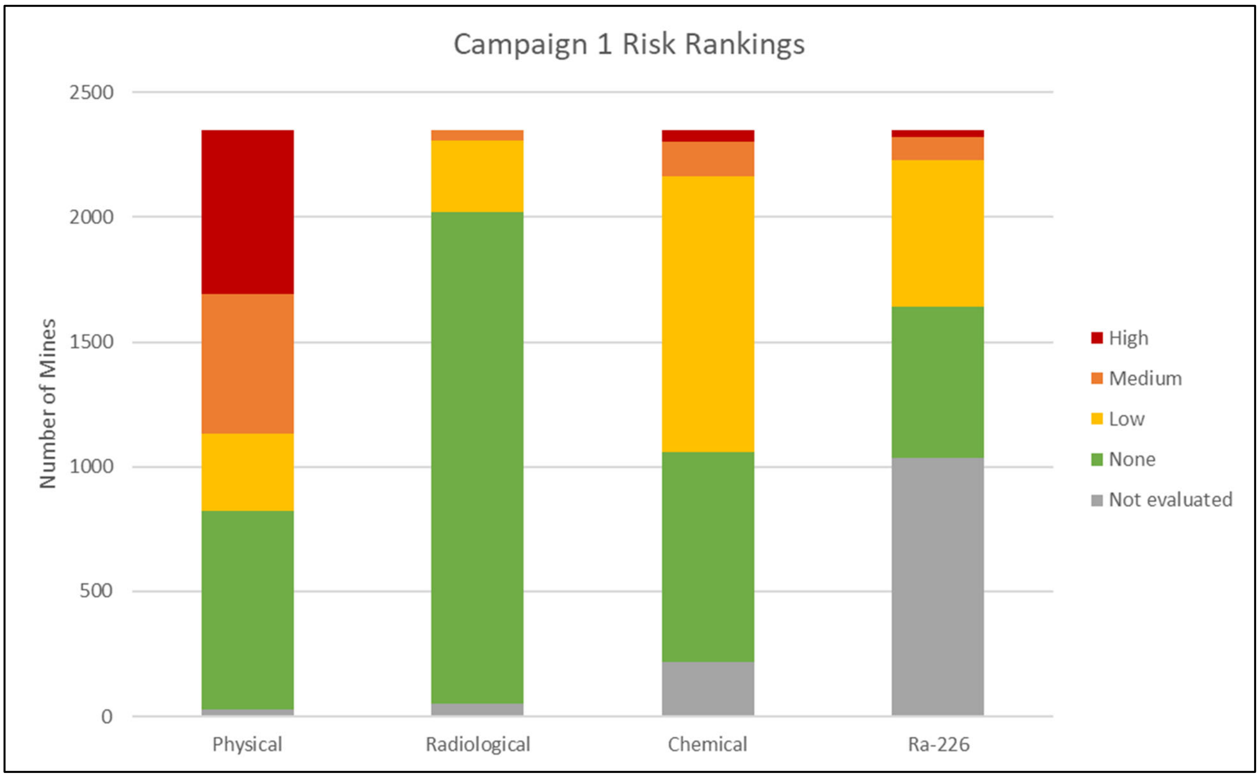
[c] Fifty-four mines had more than one elevated risk ranking (e.g., both a "medium" chemical risk ranking and a "medium" radiological risk ranking). Since one CERCLA action would address any elevated risk rankings at the same mine, these were subtracted from this column to avoid double counting.

[d] The potential CERCLA cost of $1.3 million per remediated mine was calculated using data from Table 4 of the *Defense-Related Uranium Mines Cost and Feasibility Topic Report* (DOE 2014a).

Abbreviation:

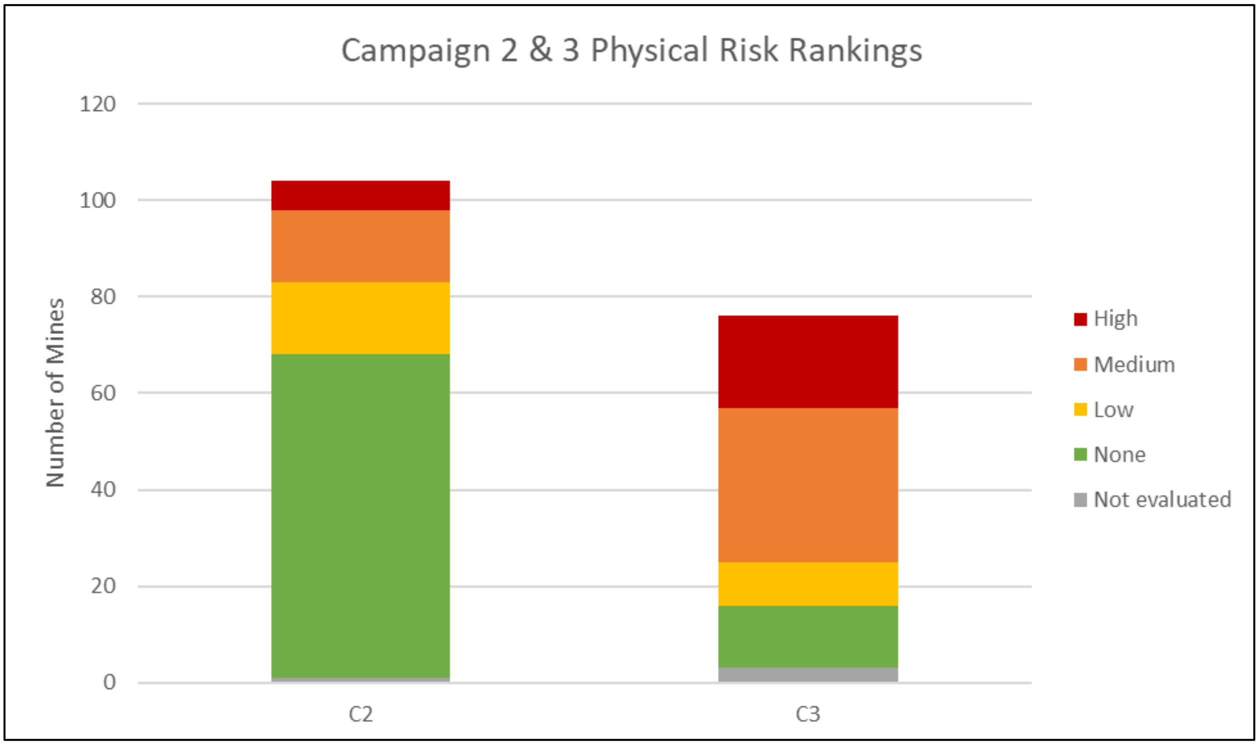
NA = not applicable

Figure 1 shows the rankings of public mines for physical, radiological, chemical, and radium-226 risks. Figure 2 shows the rankings of tribal and private property mines for physical risks as of June 30, 2025. While "high," "medium," and "low" physical hazards could be considered for safeguarding activities ("low" hazards [e.g., prospects, trenches] are not always addressed, but they are often safeguarded when equipment is onsite for other high-priority mine features), only mines with "high" or "medium" radiological and chemical risks may be considered for future remedial (CERCLA) work. Fifty-four mines exhibited more than one "high" or "medium" radiological and chemical risk ranking. In the cases of mines that exhibit multiple elevated chemical, radiological, or radium-226 risks, all risks would be addressed concurrently during a single remediation event. To avoid overestimating the potential number of remediations that may be considered, potential CERCLA actions at the 54 mines exhibiting multiple risk factors were considered as single remediation events. As a result, 296 mines may be considered for future remedial (CERCLA) work.



Note: Starting in March 2020, LM began evaluating radium-226 concentration on a separate risk track; therefore, only 1315 mines have been screened for this risk.
Abbreviation: Ra-226 = radium-226

Figure 1. Campaign 1 Mine Physical, Radiological, and Chemical Risk Rankings

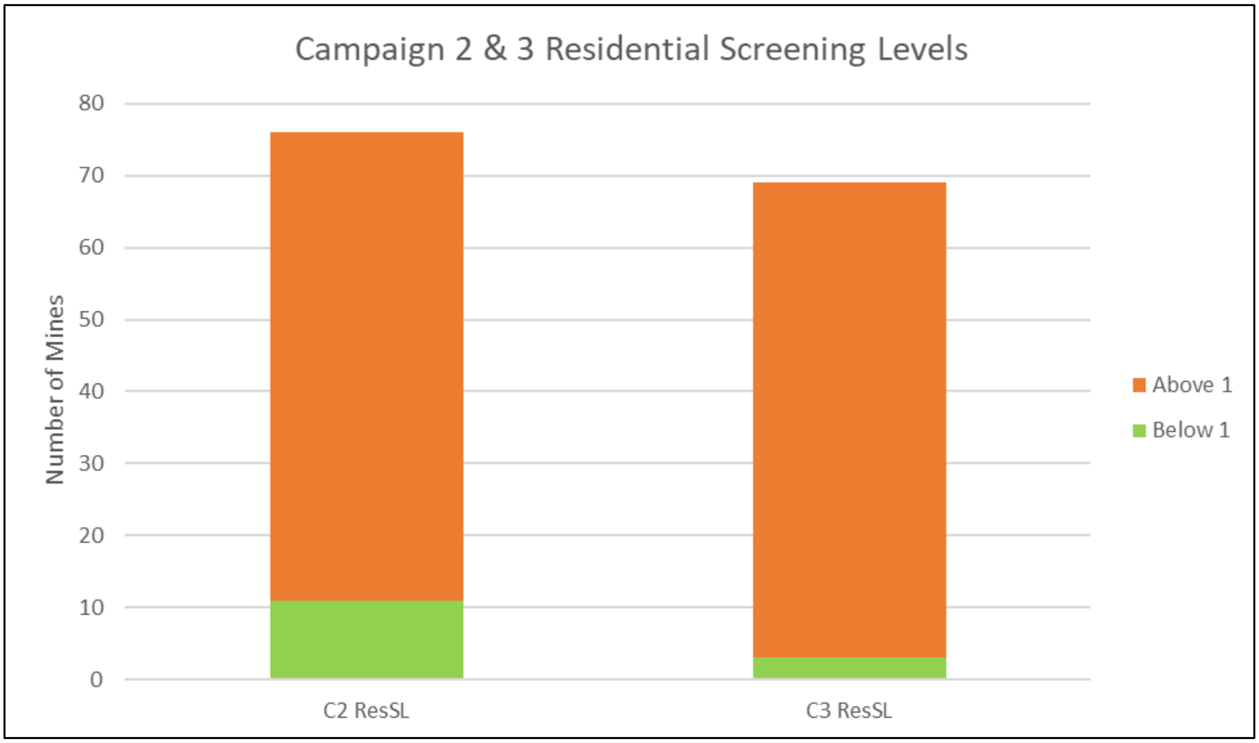


Abbreviations: C2 = Campaign 2, C3 = Campaign 3

Figure 2. Campaign 2 and 3 Mine Physical Risk Rankings

Unlike mines on public land, mines on tribal lands and private property are not scored for chemical and radiological risks; therefore, the risk-modifying factors cannot be used to determine potential CERCLA response actions at those mines. To estimate the number of mines that could require further analysis via the CERCLA process, any mine on tribal lands or private property with at least one constituent exceeding the residential screening level (ResSL) will be counted. Figure 3, Table 15, and Table 16 show the number of tribal and private property mines with a ResSL above 1 and the potential costs associated with remediation.

LM will collaborate with the land management agencies for concurrence on safeguarding priorities and planning, but CERCLA determinations are at the discretion of the land management agencies for public lands, the Navajo Nation Environmental Protection Agency for tribal lands, and the U.S. Environmental Protection Agency (EPA) for private property.



Abbreviations: C2 = Campaign 2, C3 = Campaign 3

Figure 3. Campaign 2 and 3 Mine ResSLs

Table 15. Tribal Mines That Are Potential Candidates for Remediation (CERCLA) Actions (Cumulative Through June 30, 2025)

State	Mines Risk Screened[a]	Potential CERCLA Mines (Remediation Process)	Potential CERCLA Costs (Remediation) ($ millions)[b]
Arizona	45	38	$49.4
New Mexico	25	21	$27.3
Utah	6	6	$7.8
Total	**76**	**65**	**$84.5**

Notes:

[a] This includes mines only on tribal lands with V&V reports that have been completed. An additional 31 mines had V&V reports that were completed but are not included in the total because the reports had no environmental sampling data for risk screening.

[b] The potential CERCLA cost of $1.3 million per remediated mine was calculated using data from Table 4 of the *Defense-Related Uranium Mines Cost and Feasibility Topic Report* (DOE 2014a).

Table 16. Private Mines That Are Potential Candidates for Remediation (CERCLA) Actions (Cumulative Through June 30, 2025)

State	Mines Risk Screened[a]	Potential CERCLA Mines (Remediation Process)	Potential CERCLA Costs (Remediation) ($ millions)[b]
Colorado	61	59	$76.7
New Mexico	1	0	$0
Utah	5	5	$6.5
Wyoming	1	1	$1.3
Total	**68**	**65**	**$84.5**

Notes:

[a] This includes mines only on private property with V&V reports that have been completed. An additional eight mines had V&V reports that were completed but are not included in the total because the reports had no environmental sampling data for risk screening. One site was also excluded because it is unconventional and was only evaluated by request.

[b] The potential CERCLA cost of $1.3 million per remediated mine was calculated using data from Table 4 of the *Defense-Related Uranium Mines Cost and Feasibility Topic Report* (DOE 2014a).

Additional Accomplishments

- Completed the following Campaign 1, 2, and 3 support activities:
  - Conducted training during the winter months for DRUM personnel to prepare for the 2025 field season, including office-based training; field training in Yellow Cat, Utah; job safety analysis; and DRUM field season readiness review preparation
  - Continued participating in meetings with the Navajo Nation Working Group, which comprises the Navajo Nation Environmental Protection Agency, the Navajo Abandoned Mine Lands Reclamation Department, EPA Region 9, the U.S. Bureau of Indian Affairs, LM, and the LMS contractor
  - Supported LM for a BCI drone flight at the Whirlwind mine (LM ID 6441) on the Navajo Nation
- Completed the following safeguarding program support activities:
  - Participated in monthly safeguarding planning and collaboration meetings (1) with LM, BCI, and BLM for projects being developed in Utah; (2) with LM, BCI, and the Colorado Division of Reclamation, Mining, and Safety for projects being developed in Colorado; and (3) with LM, BCI, and BLM for a project being developed in Montana
  - Supported LM and BCI on an underground bat survey for a safeguarding project in Little Gypsum Valley, Colorado, by acting as a portal attendant while the survey team was conducting the underground survey
  - Participated in National Environmental Policy Act review and collaboration meetings for following safeguarding projects:
    - West Calamity and Outlaw Mesa project in Colorado
    - Spring Creek Adjacent, Placerville, and Private mines project in Colorado
    - Pryor Mountains project in Montana

- Prepared and submitted responses to ad hoc requests, as necessary:
  - Uploaded all USFS Manti-La Sal National Forest V&V reports
  - Verified the permit status of mines with permits that interfered with V&V activities
  - Generated the latest Colorado export for all DRUM features and field notes in the state
  - Completed an ad hoc summary of the *Effectiveness of the Wyoming Large Mines V&V Work Plan Deviation*
  - Prepared a geodatabase package for mines in the Gypsum Gap and Long Ridge Localities of Colorado
  - Prepared a geodatabase package for mines in New Mexico (including Navajo Nation mines) for the New Mexico Environment Department's development of a program similar to the DRUM Program
  - Uploaded all SITLA mine V&V reports and risk roll-up reports for the State of Utah
  - Prepared a mine site field form for use in planning safeguarding work at DRUM mines on the Navajo Nation
  - Created a hazardous features spreadsheet for potential safeguarding work in Wyoming
  - Exported a GeoPackage for the Little Man mine (LM ID 3704)
  - Exported all Navajo Nation information as a file geodatabase instead of a GeoPackage
  - Exported all BLM mixed-ownership mines in Wyoming
  - Created a spreadsheet of hazardous features at mines in the BLM White River, Little Snake, and Colorado River Valley Field Offices in Colorado
  - Prepared a table that shows a list of high-hazard BLM mines based on the Tier 2 risk screening (risk roll-up reports) and includes the states and BLM field offices the mines are in
  - Updated monthly DRUM progress graphics, including the Campaign 1 ore cart and Campaign 2 and 3 ore bin graphics, the Campaign 1 remaining field visits, and the safeguarding graphic
- Completed the following contract deliverable support activities:
  - Submitted monthly the contract deliverable, "Report monthly to communicate active, settled, and potential future litigation related to DOE, potential liabilities for DOE, and other uranium mining related lawsuits that may directly or indirectly affect or change LM's programs related to uranium mines and mills"
  - Submitted the contract deliverable, "Produce Field Operation Plans needed for the calendar years 2024, 2025, and 2026 field seasons"
  - Submitted the contract deliverable, "Submit draft final DRUM Annual Report covering January–December for the calendar year," providing details on program activities and accomplishments in 2024, project planning for 2025, and an updated program timeline
  - Submitted the contract deliverable, "Review and update the DRUM V&V Work Plans for Campaign 2"

DRUM Program Return on Investment

The 2014 Report to Congress identified 4225 potential uranium mines on federal, state, and tribal lands and private property. Of these, the report estimated that 2515 mines were on public land, 453 were on tribal lands, and 1257 were of unknown ownership or on nonfederal and nontribal lands. Although the report did not describe all the potential liabilities related to uranium mines, it estimated that 80% of the mines would require safeguarding (referred to as "reclamation"), and 20% would require environmental remediation. Safeguarding involves mitigating mining-related physical hazards, generally by building barriers at entries to underground mines so people cannot access them. Reclamation is the process of restoring mined land as required for postmining land use approved by a regulatory authority. This process may include reshaping waste rock piles and other mining-related disturbances to reduce potential erosion and blend the mine site with the bordering undisturbed landscape. AUM remediation typically involves isolating contaminants or pollutants from the surrounding environment, generally by consolidating waste materials and performing environmental restoration work.

The 2014 Report to Congress estimated that mines exhibiting threats to human safety would require an average of three safeguards each at an estimated cost of $18,000 per constructed safeguard, or an average unit cost of $54,000 per affected mine. It also estimated that mines requiring remediation under CERCLA may require an average unit cost of $1,300,000 per mine based on Table 4 of the *Defense-Related Uranium Mines Cost and Feasibility Topic Report* (DOE 2014a). The maximum remediation cost for each mine size category was multiplied by the percentage of mines in that size category to derive the estimated cost per mine of $1,300,000 (rounded).

Implementation of DRUM Campaign 1 (field V&V activities at mines on public land) in FY 2017, DRUM Campaign 2 (field V&V activities at mines on tribal lands) in FY 2022, and DRUM Campaign 3 (field V&V activities at mines on private property) in FY 2024 has substantially reduced the potential costs of reclamation and remediation in the following two ways: (1) by removing duplicate mine records from the DRUM Program database, thereby decreasing the estimated total number of existing mines, and (2) by refining the estimated number of physical hazards and environmental risks by applying risk scoring assessments based on observed mine conditions.

As of June 30, 2025, the DRUM Program database has identified 2370 mines on public land (2217 Campaign 1 mines plus the public portions of 151 Campaign 1 and 3 mixed-ownership mines and two Campaign 1 and 2 mixed-ownership mines) and 211 mines on tribal lands (208 Campaign 2 mines plus the tribal portions of two Campaign 1 and 2 mixed-ownership mines and one Campaign 2 and 3 mixed-ownership mine) for V&V work. While there are 652 mines identified on private property (500 Campaign 3 mines plus the private portions of 151 Campaign 1 and 3 mixed-ownership mines and one Campaign 2 and 3 mixed-ownership mine) for V&V work, no more than approximately 252 of these mines will be visited before the conclusion of fieldwork on September 30, 2026. Analysis of the risk scoring assessments completed to date shows that approximately 64% of mines on public land, 34% of mines on tribal lands, and 80% of mines on private property will require safeguarding of physical hazards compared to the 80% estimated in the 2014 Report to Congress. However, DRUM Program field inventory data generally validate the 2014 Report to Congress estimate that an average of three safeguards will be required per mine where hazardous entries are identified. These updated estimates result in safeguarding cost reductions of approximately $26,136,000 for public land

(Table 17), $15,660,000 for tribal lands (Table 18), and $43,416,000 for private property (Table 19).

Whereas the 2014 Report to Congress estimated that 20% of mines would require further evaluation via the CERCLA process, DRUM fieldwork completed to date reduces this estimation to 12% for mines on public land. When implemented, the CERCLA process will be handled by the appropriate land management agencies. If this trend continues, the resulting potential remediation scope will be reduced from 503 mines (the 2014 Report to Congress estimate) to approximately 296 mines, representing an approximate cost reduction of $269,100,000 (Table 17).

Unlike mines on public land, for which long-term chemical and radiological risks are assessed using a scoring process, mines on tribal lands and private property are not assessed for long-term chemical and radiological risks. Instead, analytical results are compared to screening benchmarks for chemical constituents and radium-226 in tables and bar charts. These chemical and radiological data are provided to tribal land agencies, U.S. government agencies, and private property owners to allow sufficient flexibility to establish priorities based on needs, requirements, and budgets. Due to this difference in risk assessment and scoring, it is difficult to determine which mines will require additional evaluation under CERCLA given the wider variety of exposure scenarios on tribal lands and private property. Tribal lands exposure scenarios include recreational, livestock rancher, residential, and Navajo Nation surrogate residential exposure scenarios. Private property exposure scenarios include recreational, livestock rancher, and residential exposure scenarios. Additionally, there have been changes to EPA regional screening levels (RSLs) for chemical and radiological constituents since the 2014 Report to Congress. For example, in 2023, EPA changed the residential RSLs for lead (reduced by 75%), cadmium (reduced by 90%), and nickel (reduced by 7%).

Due to the complexities described above in determining which mines on tribal lands and private property may be CERCLA-eligible, the 2014 Report to Congress estimation of 20% of mines that would require further evaluation via the CERCLA process will be used to calculate the return on investment for Campaigns 2 and 3. The resulting potential remediation scope is decreased from 91 mines to 42 mines on tribal lands, representing an approximate cost reduction of $63,700,000 (Table 18), and from 251 mines to 50 mines on private property, representing an approximate cost of reduction of $261,300,000 (Table 19).

For FYs 2017 through 2023, the DRUM Program's total expended costs are approximately $39,690,000, or about $5,670,000 per year. The total projected program expenditure of $56,700,000 (an average of $5,670,000 per year for FYs 2017 through 2026) has the potential to reduce costs by $679,312,000, a return on investment of almost 12:1.

Table 17. Estimated Versus Projected DRUM Program Actions and Expenditures at Mines on Public Land

	2014 Report to Congress Estimates	Program Estimates as of June 30, 2025[a]	Difference
Total number of mines	2515	2369[b]	146 mines
Estimated percentage of mines requiring safeguards	80%	64%	16%
Estimated number of mines to safeguard	2012	1528	484 mines
Estimated safeguard construction cost per mine	$54,000	$54,000	$0
Estimated cost to complete safeguards	$108,648,000	$82,512,000	$26,136,000
Estimated percentage of mines requiring CERCLA remediation	20%	12%	8%
Estimated number of CERCLA-eligible mines	503	296	207 mines
Estimated CERCLA remediation cost per mine	$1,300,000	$1,300,000	$0
Estimated cost to complete CERCLA remediation	$653,900,000	$384,800,000	$269,100,000
Estimated total safeguarding and CERCLA remediation cost	$762,548,000	$467,312,000	$295,236,000

Notes:
[a] This is the total number of public land mines that have been identified for V&V work as of June 30, 2025.
[b] Excludes one unconventional site that was field evaluated by request and counted as a mixed-ownership mine (Campaigns 1 and 3).

Table 18. Estimated Versus Projected DRUM Program Actions and Expenditures at Mines on Tribal Lands

	2014 Report to Congress Estimates	Program Estimates as of June 30, 2025[a]	Difference
Total number of mines	453	211	242 mines
Estimated percentage of mines requiring safeguards	80%	34%	46%
Estimated number of mines to safeguard	362	72	290 mines
Estimated safeguard construction cost per mine	$54,000	$54,000	$0
Estimated cost to complete safeguards	$19,548,000	$3,888,000	$15,660,000
Estimated percentage of mines requiring CERCLA remediation	20%	20%	0%
Estimated number of CERCLA-eligible mines	91	42	49 mines
Estimated CERCLA remediation cost per mine	$1,300,000	$1,300,000	$0
Estimated cost to complete CERCLA remediation	$118,300,000	$54,600,000	$63,700,000
Estimated total safeguarding and CERCLA remediation cost	$137,848,000	$58,488,000	$79,360,000

Note:
[a] This is the total number of tribal land mines that have been identified for V&V work as of June 30, 2025.

Table 19. Estimated Versus Projected DRUM Program Actions and Expenditures at Mines on Private Property

	2014 Report to Congress Estimates	Program Estimates as of June 30, 2025[a]	Difference
Total number of mines	1257[b]	252[c]	1005 mines
Estimated percentage of mines requiring safeguards	80%	80%	0%
Estimated number of mines to safeguard	1006	202	804 mines
Estimated safeguard construction cost per mine	$54,000	$54,000	$0
Estimated cost to complete safeguards	$54,324,000	$10,908,000	$43,416,000
Estimated percentage of mines requiring CERCLA remediation	20%	20%	0%
Estimated number CERCLA-eligible mines	251	50	201 mines
Estimated CERCLA remediation cost per mine	$1,300,000	$1,300,000	$0
Estimated cost to complete CERCLA remediation	$326,300,000	$65,000,000	$261,300,000
Estimated total safeguarding and CERCLA remediation cost	$380,624,000	$75,908,000	$304,716,000

Notes:

[a] This is the total number of private property mines that have been identified for V&V work and have approved access for V&V work by September 30, 2026, as of June 30, 2025.

[b] This is the total number of mines with unknown ownership plus mines on nonfederal and nontribal lands reported in the 2014 Report to Congress. This number was reduced to the actual number of mines on private property through the removal of duplicate mining records during the reconciliation process.

[c] Excludes one unconventional site that was field evaluated by request and counted as a mixed-ownership mine (Campaigns 1 and 3).

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